# Flyback Transformers

For TI TPS23753A PoE Interface and Converter Controller

- For TI TPS23753A IEEE802.3 PoE Interface and Converter Controller
- Developed for TI PMP9068 Class 1 Isolated Synchronous Flyback Converter for PoE PD Application Reference Design
- 1500 Vrms, one minute isolation primary and bias to secondary and drive windings

**Core material** Ferrite

**Terminations** RoHS tin-silver-copper over tin over nickel over phos bronze.

**Weight** 2.1 g

**Ambient temperature** –40°C to +125°C

**Maximum part temperature** +135°C

**Storage temperature** Component: –40°C to +125°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)** 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 350 per 13″ reel Plastic tape; 32 mm wide, 0.45 mm thick, 20 mm pocket spacing, 9.35 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

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**Part Numbers**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>L at 0A²</th>
<th>LatIpk²</th>
<th>DCR max (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA6595-AL_</td>
<td>310</td>
<td>279.0</td>
<td>1.14 0.025 0.282 1.58</td>
</tr>
</tbody>
</table>

1. When ordering, please specify **packaging** code:

**PA6595-ALD**

**Packaging:** D = 13″ machine ready reel, EIA-481 embossed plastic tape (350 per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

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**Leakage Lₘₜₜₚₚₚₚ (µH)**

<table>
<thead>
<tr>
<th>Lₘₜₜₚₚₚₚ</th>
<th>Turns ratio</th>
<th>Ipₚₚₚₚₚₚ (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pri drive</td>
<td>pri:sec:drive:pri:drive:bias</td>
<td>Output</td>
</tr>
<tr>
<td>4.10 0.20</td>
<td>1:0.14 1:0.21 1:0.465</td>
<td>0.3 3.3 V, 0.9 A</td>
</tr>
</tbody>
</table>

2. Inductance is for the primary, measured at 250 kHz, 0.1 Vrms.

3. Peak primary current drawn at minimum input voltage.

4. Leakage inductance for the primary is with the secondary and drive windings shorted; leakage inductance for the drive winding is with the secondary windings shorted.

5. Output is of the secondary winding. Output of the bias winding is 12 V, 20 mA. Output of the drive winding is 5 V, 50 mA.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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**Dimensions are in inches/mm**

<table>
<thead>
<tr>
<th>Internal code</th>
<th>0.004/0.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.355 max</td>
<td>0.339 8.60</td>
</tr>
<tr>
<td>0.339 max</td>
<td>0.355 8.32</td>
</tr>
<tr>
<td>0.041 0.05</td>
<td>0.050 1.27</td>
</tr>
<tr>
<td>0.370 2.65</td>
<td>0.098 2.40</td>
</tr>
<tr>
<td>0.098 0.28</td>
<td>0.104 2.65</td>
</tr>
<tr>
<td>0.370 9.40</td>
<td>0.098 2.40</td>
</tr>
</tbody>
</table>

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